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Request for grant of a patent

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15 OCT 2003
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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|
| 1. Your reference | FEMI / P29158GB | | |
| 2. Patent application number (The Patent Office will fill in this part) | 0324106.4 | | 15 OCT 2003 |
| 3. Full name, address and postcode of the or of each applicant (underline all surnames) | Femcare (Cyprus) Limited Meliza Court 4th and 7th Floors 229 Archbishop Makarios III Avenue Larnaca Cyprus 8321911001 | | |
| Patents ADP number (if you know it) | Cyprus | | |
| If the applicant is a corporate body, give the country/state of its incorporation | Cyprus | | |
| 4. Title of the invention | APPLICATOR | | |
| 5. Name of your agent (if you have one) | ERIC POTTER CLARKSON PARK VIEW HOUSE 58 THE ROPEWALK NOTTINGHAM NG1 5DD | | |
| "Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode) | | | |
| Patents ADP number (if you know it) | 1305010 | ✓ | |
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| 7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application | Number of earlier application | | Date of filing (day / month / year) |
| 8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if: | YES | | |
| a) any applicant named in part 3 is not an inventor; or | | | |
| b) there is an inventor who is not named as an applicant, or | | | |
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Continuation sheets of this form

Description 6

Claims(s) 2

Abstract 1

Drawing(s) 2 x 2

10. If you are also filing in any of the following, state how many against each item.

Priority Documents 0

Translations of priority documents 0

Statement of inventorship and right to grant of a patent (Patents Form 7/77) NO

Request for preliminary examination and search (Patents Form 9/77) YES

Request for substantive examination (Patents Form 10/77) NO

Any other documents (please specify)

11.

I/We request the grant of a patent on the basis of this application.

Eric Potter Clarkson

Signature

ERIC POTTER CLARKSON

Date

14 October 2003

12. Name and daytime telephone number of person to contact in the United Kingdom

0115 9552211

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DUPLICATE

Applicator

The present invention relates to applicators and more particularly to applicators for insertion and closure of surgical clips.

5

Such clips may be for sterilisation or other medical, orthopaedic or surgical purposes where an intermediate position of an applicator or other appliance is required to be able to be accurately determined.

10 The term applicator is thus meant to include other appliances, particularly in the medical field, which involve a closure of a jaw or other similar gripping or squeezing action in which a specific intermediate position is required to be determined.

15 The present invention will now be described with reference to applicators for surgical clips. Except in open surgery it is necessary for the applicator to be inserted down a cannula for the more modern "key hole" surgery. Thus, the applicator or more precisely barrel portion of the applicator has to pass down the cannula loaded with a clip to be attached for occlusion of, for
20 example a vas deferens or other tubular member.

With clips of the Filshie type such as disclosed in GB patent no. 2177748 excessive force applied to the clip during passage of the barrel down the cannula can result in clip failure. The clip could fall out of the barrel once it
25 emerges from the cannula or alternatively the clip could fail by incorrect closure.

The present invention seeks to obviate this problem by providing a visual indication of an intermediate position of the applicator to ensure that there is

no over-closure of a clip during passage of an applicator barrel down a cannula.

The present invention therefore provides an applicator, said applicator
5 comprising a barrel portion and a handle portion attached thereto, said
barrel portion comprising means for holding a surgical clip and said handle
comprising trigger means said trigger means being operative to effect
closure of a surgical clip held within said barrel by movement of said
10 trigger from a first position to a second position at which second position
said applicator is operative to effect closure of said clip, in which said
trigger is provided with a visual indicator means indicative of an
intermediate trigger position at which intermediate position said surgical
clip held in said barrel is closed to a half closed position.

15 Preferably said visual indication comprises an indentation on said trigger.

Alternatively said visual indication comprises a reduced section of said
trigger.

20 In a further embodiment said visual indication comprises groove means in
said trigger.

In said further embodiment said groove means may comprise means for
engaging with a removable stop means said removable stop means being
25 co-operative with a portion of said handle to prevent movement of said
trigger past a predetermined position.

Preferably said groove means is present on both sides of said trigger.

Preferably said stop means may comprise a U shaped member which is designed in a first locking position to sit within said groove means and to protrude from said groove means to form said stop means.

- 5 Preferably said U shaped member comprises spring steel or similar material ensuring secure engagement with said groove means.

Preferably said U shaped member comprises means for gripping by a surgeon to effect removal of said U shaped member from said trigger
10 enabling movement of said trigger past said predetermined position.

In a further embodiment the trigger may comprise two or more colours arranged to identify specific portions of the trigger.

- 15 The present invention also provides an applicator comprising a handle portion and a barrel portion, said barrel portion having gripping means at a distal end from said handle portion for gripping an object in which said handle portion includes trigger means operative to move said gripping means to grip an object and in which said handle and said trigger means are
20 provided with visual indication means indicating a defined intermediate position of said trigger means.

Embodiments of the present invention will now be described by reference to the accompanying drawings in which: -

25 Figure 1 shows an applicator for clips of the Filshie type;

Figure 2 shown in greater detail the operating handle of the applicator of Figure 1 in accordance with the present invention;

Figure 3 shows a first embodiment of the visual indication means according to the present invention;

Figures 4a and 4b show a second embodiment with the trigger in two positions;

Figure 5 shows a first embodiment of the U shaped member comprising the stop means; and

5 Figure 6 shows a second embodiment of the U shaped member comprising said stop means.

With reference now to the drawings an applicator 10 for applying clips of the Filshie type (as described in European patent application no. 10 03075212.5) is shown. Such clips are of the hinged type and will be hereinafter referred to as Filshie clips.

The applicator 10 comprises a barrel portion 12 and a handle portion 14 including a trigger 16.

15

The applicator is designed to pass down a relatively small diameter cannula 18.

In order to do so it is necessary for the Filshie clip to pass down the cannula 20 whilst in position in the applicator at the end of barrel 12. For a more detailed description reference is made to PCT application no.

A problem which arises is that if the clip is closed too far by application of trigger 16 then the clip may partially latch and the clip will not subsequently 25 be able to be correctly attached.

To enable the surgeon to ascertain the correct position of the trigger to achieve the half closed position the trigger and handle combination is provided with visual indication means 20 as indicated in Figure 2.

This visual indication means preferably comprises an elongate linear feature easily discernible by a surgeon enabling the surgeon to readily set the trigger to a correct position.

5

The visual indicator may also comprise means for physically preventing further movement of the trigger past the correct semi-closed position of the clip this being illustrated hereinafter with reference to Figures 4, 5 and 6.

10 With reference to Figure 2 the visual indicator 20 marks a position at which with trigger 16 is moved on pivot 142 against for example return spring 140 the clip positioned at the distal end of barrel 12 will be in a semi-closed position.

15 Preferably the visual indicator line 20 will exist for a substantial distance over the trigger to provide a visual indication even when the trigger is being gripped by one or more of the digits of a surgeons hand.

20 In Figure 2 a section of the trigger along line A-A is shown for various embodiments illustrated in Figures 3 to 6.

In Figure 3 the trigger 14 is provided with a dual thickness shape shown at 202, 203 the change in thickness providing the visual indication 20.

25 In Figures 4a and 4b a groove 206, 208 is provided, preferably on both sides of the trigger.

The groove can provide the visual indication itself but in a specific embodiment a U shaped member 210 (see Figures 5 and 6) is inserted along the groove.

5 For illustrative purposes an edge portion 144, 146 of handle 14 is shown illustrating that when trigger 16 is pulled back the U shaped member 210 abuts the edges 144, 146 and physically prevents further movement of the trigger.

10 The U shaped member 210 is shown in a first embodiment in Figure 5 and preferably comprises a spring steel member allowing it to grip the grooves in trigger 16. Alternatively a suitable rigid plastic material may be used.

15 In Figure 6 the U shaped member is provided with gripping means 212 facilitating easy removal once capable closure of the Filshie clip is required.

The visual indication 20 may also be provided or enhanced by a change in colour of the trigger along line 20.

CLAIMS

1. An applicator or other surgical applicators, said applicator comprising a barrel portion and a handle portion attached thereto, said
5 barrel portion comprising means for holding a surgical clip and said handle comprising trigger means said trigger means being operative to effect closure of a surgical clip held within said barrel by movement of said trigger from a first position to a second position at which second position said applicator is operative to effect closure of said clip in which said
10 trigger is provided with a visual indicator means indicative of an intermediate trigger position at which intermediate position said surgical clip held in said barrel is closed to a half closed position.
2. An applicator as claimed in claim 1, in which said visual indication
15 comprises an indentation on said trigger.
3. An applicator as claimed in claim 1, in which said visual indication comprises a reduced section of said trigger.
- 20 4. An applicator as claimed in claim 1, in which said visual indication comprises groove means in said trigger.
5. An applicator as claimed in claim 4, in which said groove means may comprise means for engaging with a removable stop means said
25 removable stop means being co-operative with a portion of said handle to prevent movement of said trigger past a predetermined position.
6. An applicator as claimed in claim 5, in which said groove means is present on both sides of said trigger.

7. An applicator as claimed in claim 6, in which said stop means comprises a U shaped member which is designed in a first locking position to sit within said groove means and to protrude from said groove means to
5 form said stop means.

8. An applicator as claimed in claim 7, in which said U shaped member comprises spring steel or similar material ensuring secure engagement with said groove means.

10

9. An applicator as claimed in claim 8, in which said U shaped member comprises means for gripping by a surgeon to effect removal of said U shaped member from said trigger enabling movement of said trigger past said predetermined position.

15

10. An applicator as claimed in and one of claims 1 to 9, in which the trigger may comprise two or more colours arranged to identify a specific position of the trigger.

20

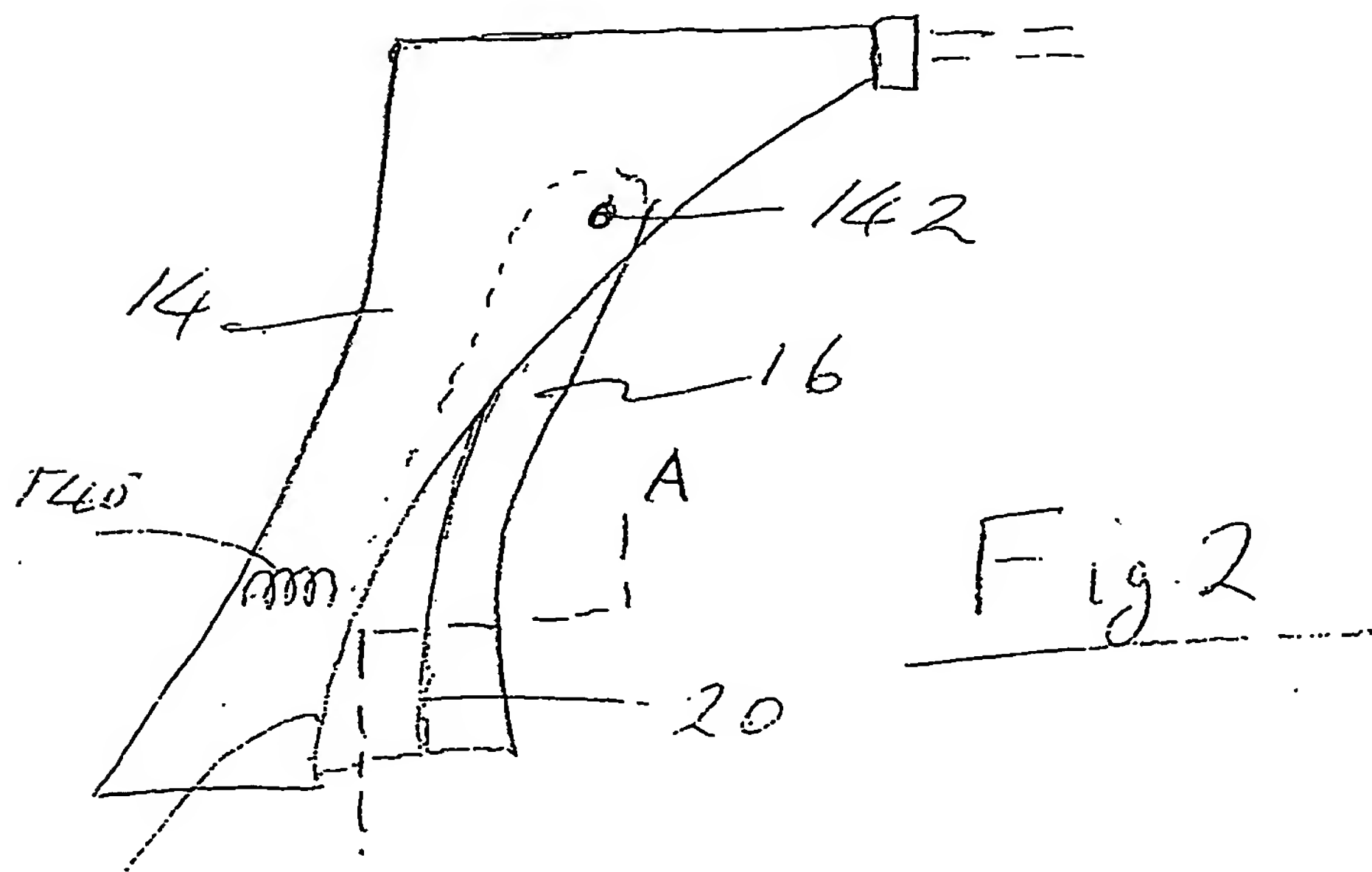
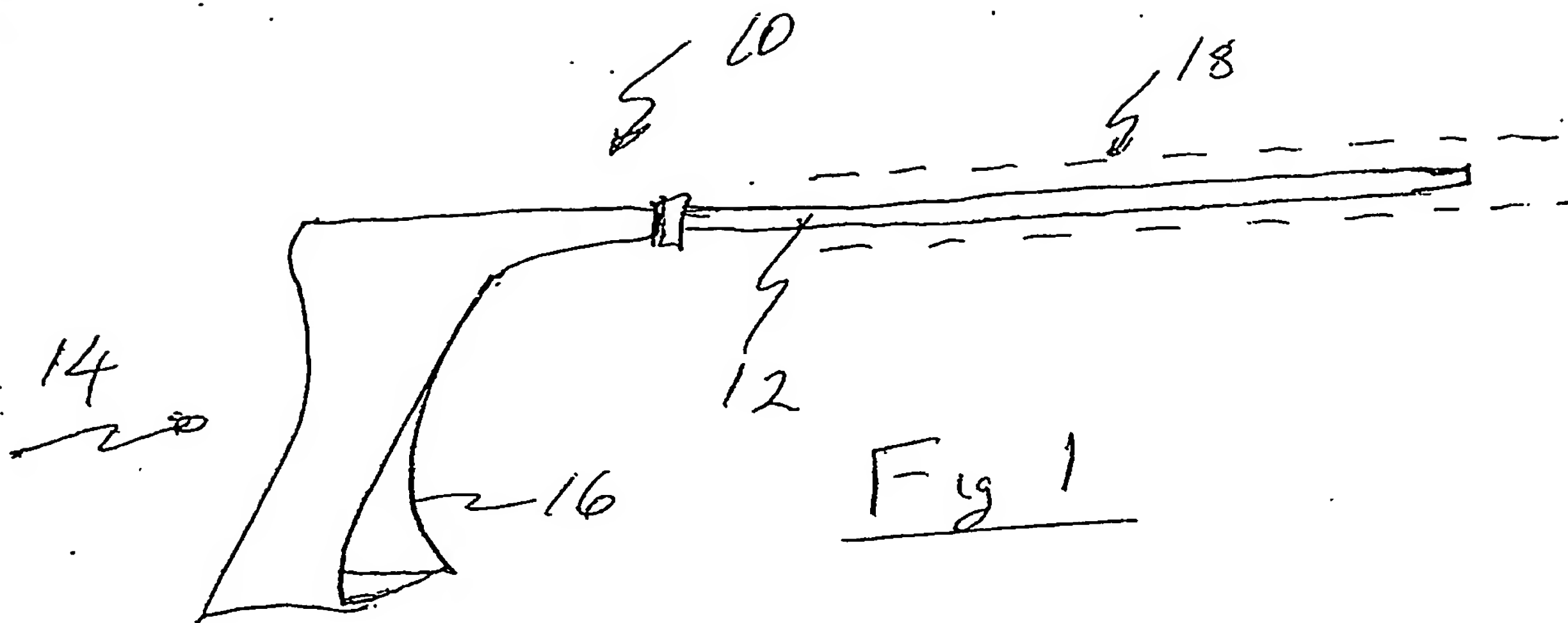
11. An applicator comprising a handle portion and a barrel portion, said barrel portion having gripping means at a distal end from said handle portion for gripping an object in which said handle portion includes trigger means operative to move said gripping means to grip an object and in which
25 said handle and said trigger means are provided with visual indication means indicating a defined intermediate position of said trigger means.

ABSTRACT

A visual indication of an intermediate position is provided on an applicator to enable an operator to correctly position the trigger of the applicator to
5 achieve a defined intermediate position:

Figure 2

1/2



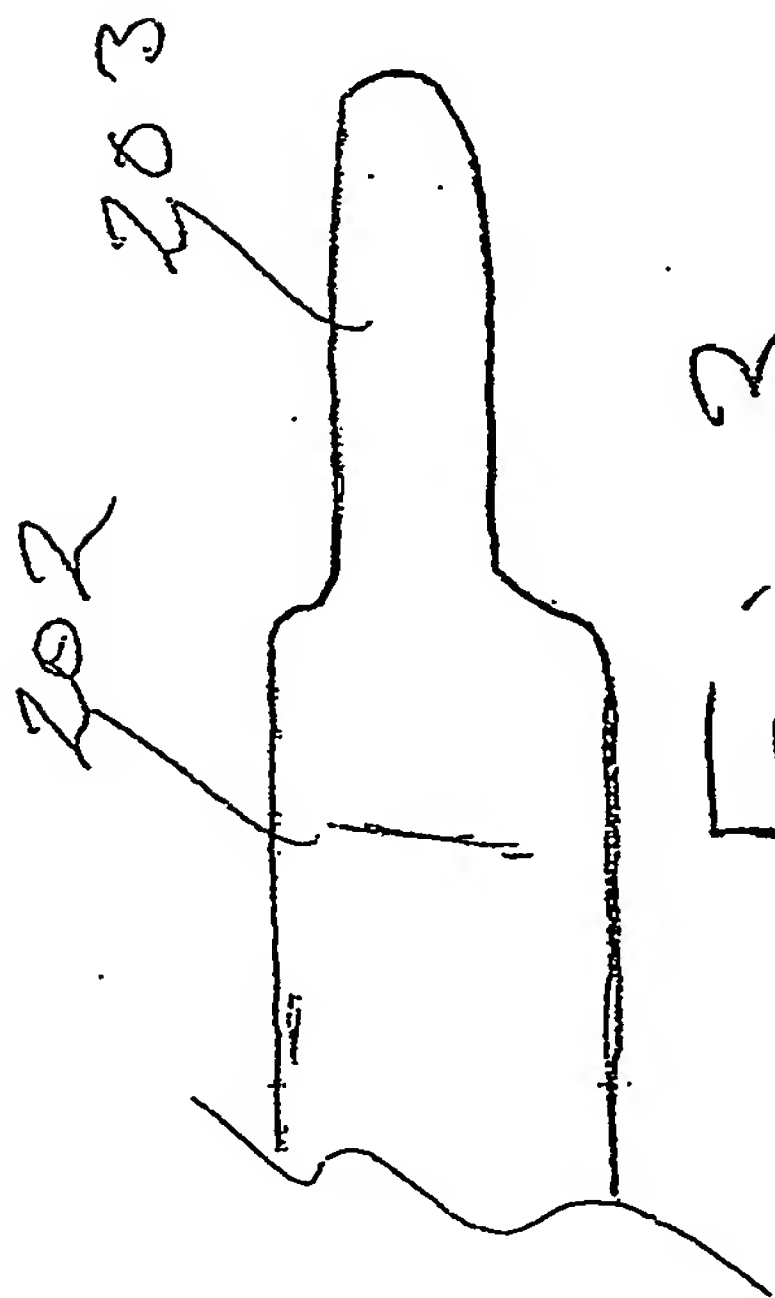


Fig 3

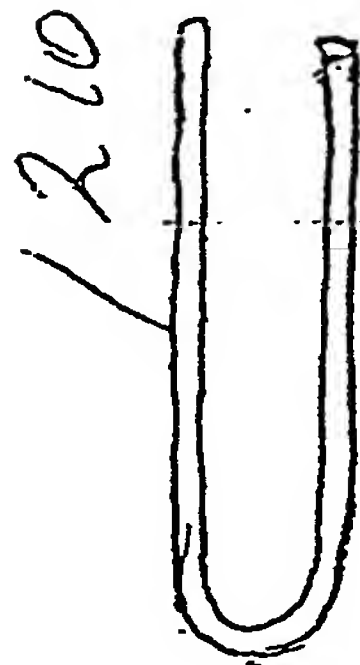


Fig 5



Fig 6

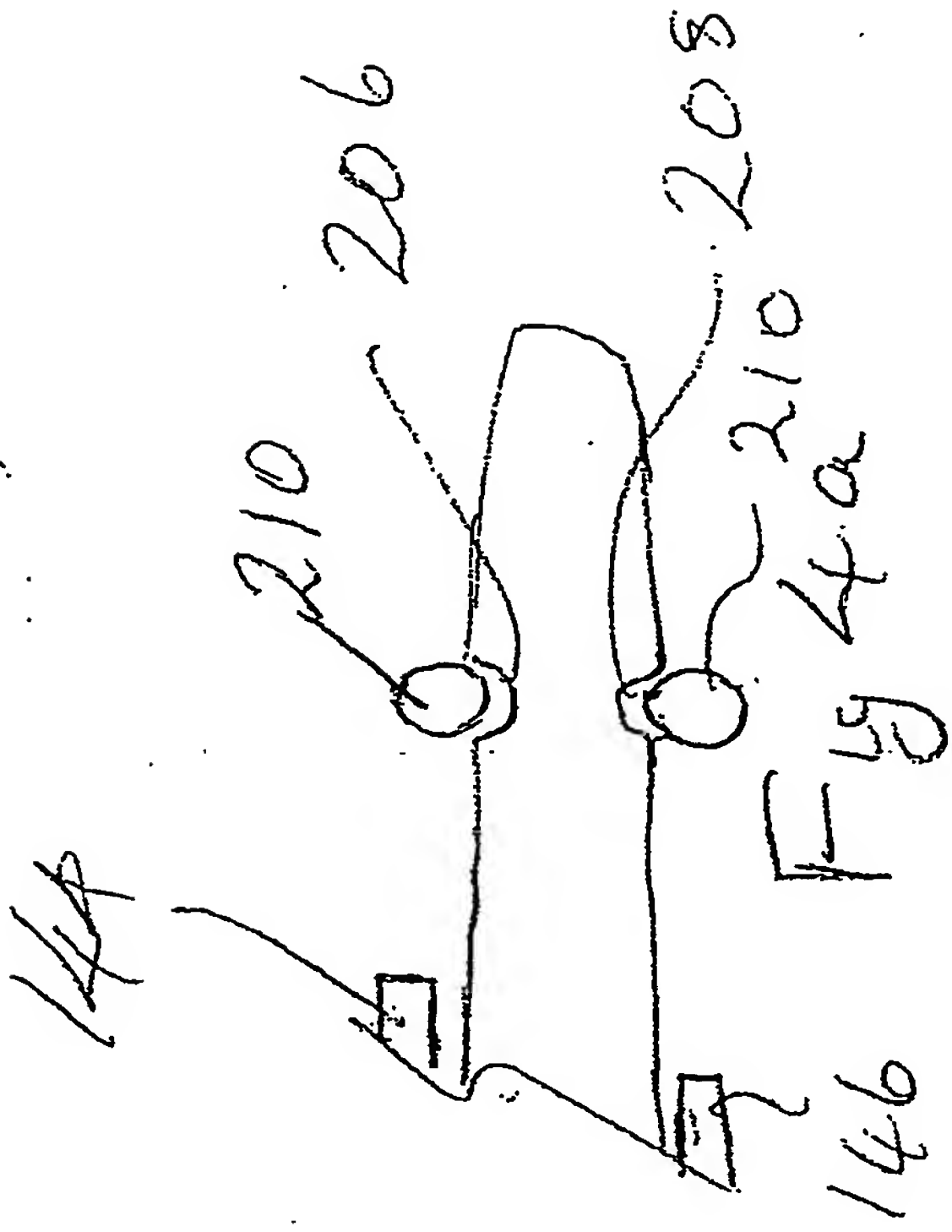


Fig 4a

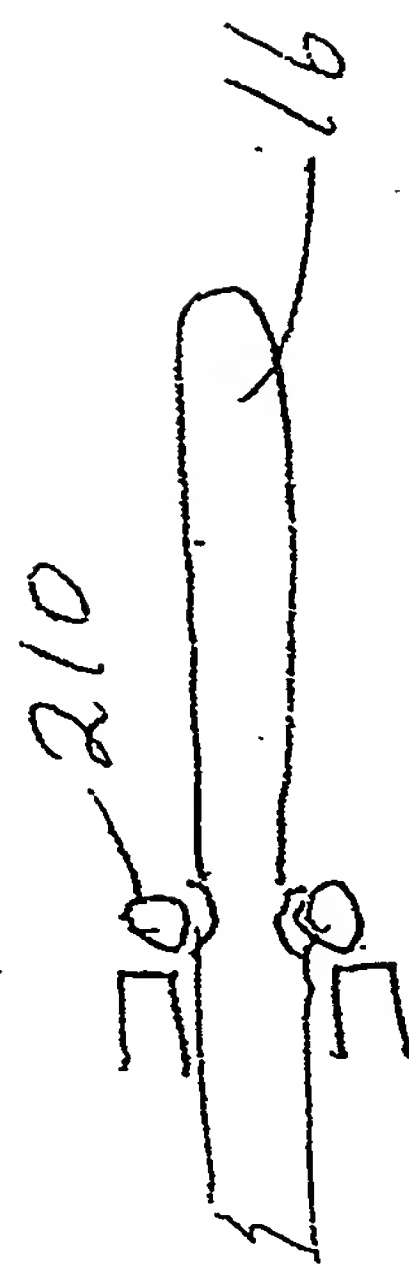


Fig 4b

Document made available under the Patent Cooperation Treaty (PCT)

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